CLAIMS

We claim:

1.   A method of processing a received signal, comprising:

receiving the signal to provide a sequence of symbols associated with the received signal in respective ones of a plurality of symbol positions;

identifying a known block of the sequence of symbols containing known

5   symbol values and an unknown block of the sequence of symbols containing unknown symbol values;

determining a desired demodulation type for use in demodulating the unknown block based on the known symbol values;

detecting an interferer signal characteristic discontinuity location in the

10   unknown block; and

demodulating the unknown block using a first selected demodulation type between the interferer signal characteristic discontinuity and the known block and a second selected demodulation type on another portion of the unknown block, the first selected demodulation type and the second selected demodulation type being selected

15   based on the determined desired demodulation type for use in demodulating the unknown block and the detected interferer signal characteristic discontinuity.

2.   The method of Claim 1 wherein determining a desired demodulation type for use in demodulating the unknown block based on the known symbol values

20   further comprises selecting either non-interferer cancellation or interferer cancellation demodulation as the desired demodulation type for use in demodulating the unknown block.

3.   The method of Claim 2 wherein determining a desired demodulation

25   type for use in demodulating the unknown block based on the known symbol values further comprises estimating interferer signal characteristics for the known block and selecting either non-interferer cancellation or interferer cancellation demodulation based on the estimated interferer signal characteristics.

4.   The method of Claim 3 wherein interferer cancellation demodulation is selected for either the first selected demodulation type or the second selected modulation type and wherein demodulating the unknown block using a first selected demodulation type between the interferer signal characteristic discontinuity and the

5   known block and a second, different selected demodulation type on another portion of the unknown block further comprises:

identifying known interferer signal symbols in the unknown block; and

updating estimates of interferer signal characteristics for use in interferer cancellation demodulation of at least a portion of the unknown block based on the

10   identified known interferer signal symbols.

5.   The method of Claim 4 wherein the interferer signal characteristic discontinuity comprises an interferer signal slot misalignment relative to a slot alignment of a desired signal component of the received signal.

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6.   The method of Claim 3 further comprising:

identifying a second known block of the sequence of symbols containing known symbol values, the another portion of the unknown block being between the interferer signal characteristic discontinuity and the second known block;

20   determining a desired demodulation type for use in demodulating the another portion of the unknown block based on the known symbol values contained in the second known block by estimating interferer signal characteristics for the second known block and selecting either non-interferer cancellation or interferer cancellation demodulation based on the estimated interferer signal characteristics for the another

25   portion of the unknown block;

wherein demodulating the unknown block using a first selected demodulation type between the interferer signal characteristic discontinuity and the known block and a second selected demodulation type on another portion of the unknown block comprises:

30   selecting the desired demodulation type for use in demodulating the unknown block as the first selected demodulation type and the desired demodulation type for use in demodulating the another portion of the unknown block as the second selected demodulation type; and

bi-directional demodulating the unknown block if either the first selected demodulation type or the second selected demodulation type is interferer cancellation demodulation.

5   7.   The method of Claim 6 wherein demodulating the unknown block using a first selected demodulation type between the interferer signal characteristic discontinuity and the known block and a second selected demodulation type on another portion of the unknown block further comprises selecting either uni-directional demodulation or bi-directional demodulation for the unknown block based

10   on a signal characteristic of the first known block and a signal characteristic of the second known block if the first selected demodulation type and the second selected demodulation type are non-interferer cancellation demodulation.

8.   The method of Claim 7 wherein selecting either uni-directional

15   demodulation or bi-directional demodulation for the unknown block based on a signal characteristic of the first known block and a signal characteristic of the second known block if the first selected demodulation type and the second selected demodulation type are non-interferer cancellation demodulation comprises:

selecting uni-directional demodulation if a difference between the signal

20   characteristics of the known blocks satisfies a difference criterion; and

selecting bi-directional demodulation if the difference does not satisfy the difference criterion.

9.   The method of Claim 8 wherein identifying a known block of the

25   sequence of symbols containing known symbol values and identifying a second known block further comprises:

first pass demodulating and decoding the sequence of symbols to provide error corrected decoded bits;

recoding and modulating the error corrected decoded bits to provide a second

30   sequence of symbols associated with the received signal in respective ones of the plurality of symbol positions; and